



Coyote Crier



NATIONAL WEATHER SERVICE TUCSON, AZ
 SKYWARN NEWSLETTER
 SERVING THE WEATHER SPOTTERS OF
 SOUTHEAST ARIZONA



CAN WE SEE WHAT THE MONSOON OF 2016 WILL BRING?

Greg Mollere, Senior Forecaster and Spotter Training Coordinator

During this time of year we always get the inevitable question of "What will the monsoon be like this year?"

All climate models indicate a transition from El Niño to ENSO neutral conditions that are likely to occur during the late spring or early summer.

The official outlook from the Climate Prediction Center for the 3 month period of July, August and September indicates a greater than 50 percent chance of above normal temperatures (see figure 1 below).

For precipitation the outlook (see fig. 2) indicates equal chances of precipitation being

either above, normal or below normal during the 3 month period. This outlook in part implies that there are no strong indicators present for any particular type of monsoon to occur. There isn't a direct correlation between ENSO-neutral conditions corresponding to any particular flavor of monsoon.

One factor that can affect the onset of the monsoon is snow pack. An above normal and deep snow pack tends to hinder the poleward advance of the subtropical ridge. Without this advancement of the ridge, the east to southeast winds do not materialize and this switch in predominant wind direction

from west to east or southeast is what ushers in the monsoon moisture, enabling daily thunderstorms to develop.

The snowpack over Colorado this winter was around normal, so no strong indicators of a delayed onset.

The Climate Prediction Center will issue another updated outlook on May 19, 2016, so be on the lookout for any possible changes that may occur to the outlook at that time.

To access the 3 month outlook for the upcoming monsoon, go to the following link:

http://www.cpc.ncep.noaa.gov/products/predictions/long_range/

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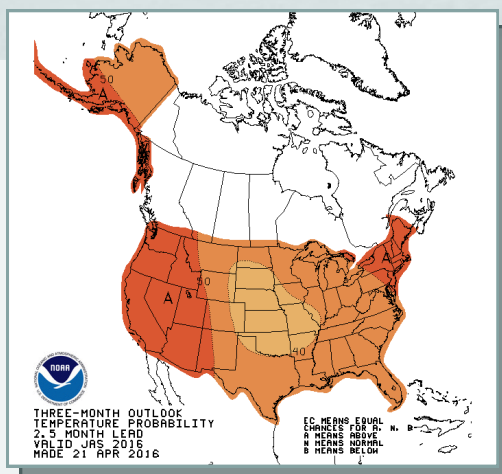


Fig. 1

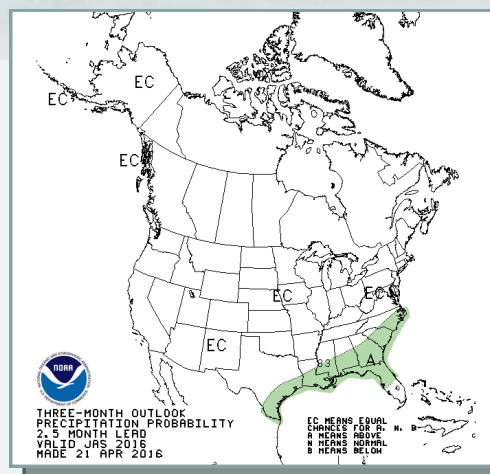


Fig. 2

WINTER OF 2015 / 2016

John Glueck, Senior Forecaster and Climate Focal Point

Hopes were high last fall that the forecast strong El Niño conditions in the tropical Pacific would bring a wet winter to southeast Arizona. Since 1950 there have been six strong El Niño events, all of which produced above normal rainfall to southeast Arizona. Each one behaved differently in that some started off wet while others were dry early, then wet late. Overall confidence was high for a wetter than normal winter season. However the atmospheric response to this strong El Niño event didn't materialize as past events which resulted in the storm track remaining north of the area.

Location	Dec-Mar Precipitation	Normal	Departure
Oracle	3.02"	9.27"	-6.25"
Chiricahua National Monument	2.37"	6.17"	-3.80"
Coronado National Memorial	3.15"	6.58"	-3.43"
Picacho	1.52"	4.38"	-2.86"
Bisbee	2.50"	5.13"	-2.63"
Arivaca	3.00"	5.35"	-2.35"
Sasabe	3.33"	5.53"	-2.20"
Organ Pipe Cactus National Monument	1.70"	3.90"	-2.20"
San Manuel	2.36"	4.55"	-2.19"
Tombstone	1.42"	3.56"	-2.14"
San Simon	1.41"	3.38"	-1.97"
Nogales	2.74"	4.52"	-1.78"
Duncan	1.74"	3.57"	-1.83"
Willcox	2.46"	3.95"	-1.49"
Ajo	1.61"	3.05"	-1.44"
Fort Thomas	2.54"	3.92"	-1.38"
Safford	1.75"	3.00"	-1.25"
Tucson airport	2.29"	3.46"	-1.17"
Benson	1.95"	3.08"	-1.13"
Douglas airport	1.78"	2.86"	-1.08"
Kitt Peak	6.74"	7.72"	-0.98"
Sierra Vista	2.43"	3.23"	-0.80"

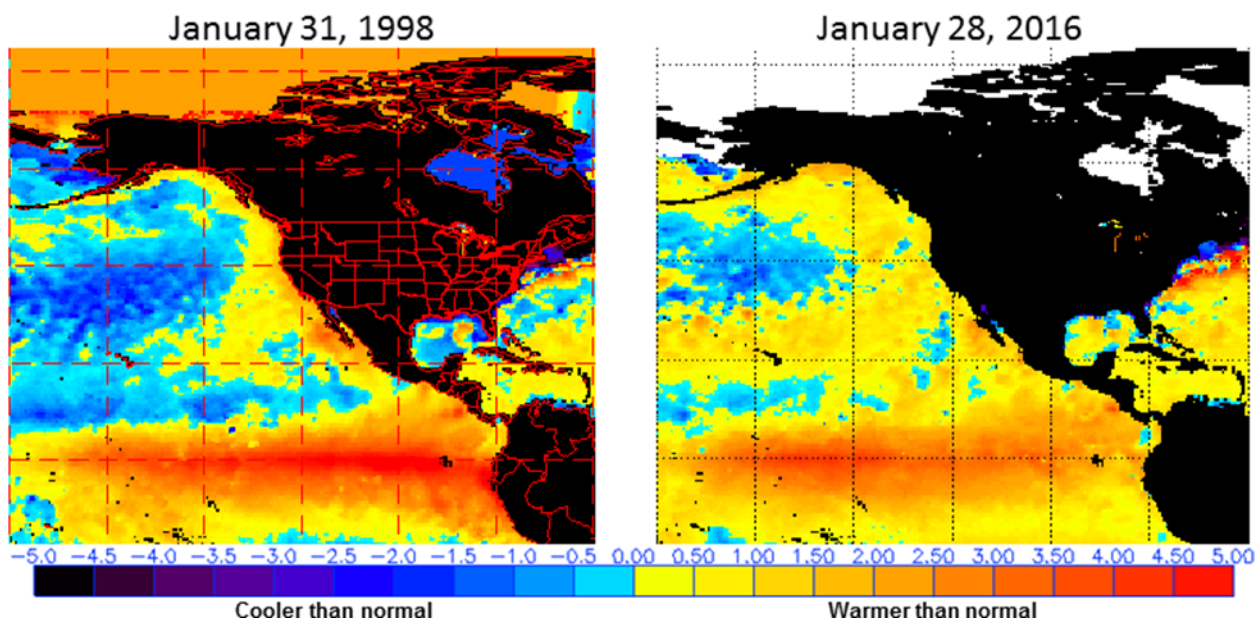
WINTER OF 2015/2016

John Glueck, Senior Forecaster and Climate Focal Point

The two sea surface temperature anomaly charts below are from 1998 and 2016. The yellow and red color corresponds to warmer than normal, while blueish corre-

sponds to cooler than normal. As you can see below the extent of warmer than normal sea surface temperatures was greater in 2016 versus 1998. This could be

one of the reasons the storm track remain north of the area. Many more factors likely contributed to the dry winter season.



SPOTTER REPORTING REMINDERS

Greg Mollere, Senior Forecaster and Spotter Training Coordinator

Just as a friendly reminder, when reporting your weather events during the monsoon, we only want rainfall or hail reports that are considered significant. This generally means rainfall greater than or equal to a half inch (0.50") in less than an hour or dime size hail or larger. In addition to the amounts and sizes we are looking for, be sure that if

your rainfall amount or hail size does exceed this threshold, to promptly report it so that it can be used in our decision making process for warnings and advisories.

Also we are no longer collecting rainfall amounts on a monthly basis. Years ago we collected rainfall data from many spotters willing to record their daily rainfall

amounts and give us the monthly total each month. However, with the advent of CoCoRaHS (Community Collaborative Rain, Hail and Snow) network, we no longer need you to send us your rainfall data. If you would like to be a part of CoCoRaHS, visit their web page to learn how to be a part of this nation-wide project at: <http://www.cocorahs.org/>

GARY ZELL, IMET, TEACHES S290 COURSE



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"Gary taught the weather portion of this course, which consisted of over 12 hours of coursework."

Gary Zell was one of the instructors for the local Intermediate Wildland Fire Behavior course (S290) held in southern Arizona between 2/9/16 and 2/12/16. The S290 class was held at the

Fire Operations Center/Desert Research Learning Center of Saguaro Park National Headquarters East and was comprised of 27 students and 5 instructors. Gary taught the weather portion of this

class which consisted of over 12 hours of coursework and more than forty percent of the S290 course.

By participating in this course, Gary helped spin up local fire departments, USFS, BLM and NPS personnel in regards to fire weather and wildland fire-fighting. He was also able to build stronger personal relationships with the local fire agencies across southern Arizona.



Gary Zell, Incident Meteorologist, Teaching S290

ADVANCED WEATHER SPOTTER TRAINING

Ken Drozd, Warning and Coordination Meteorologist



We will be offering an advanced weather spotter training session this Spring. This course will go beyond the basics and get into more details regarding storm structure, how to submit a good spotter report, etc. Space for this session will be limited to 50 participants and we ask

that in order to attend you must have attended the basic spotter training class sometime during the past 3 years and you also must register for this class. The training will be held on Saturday June 11th at 2:00 pm at the ENRB Building on the U of A Campus. The address is 520

N. Park Ave. Suite 253. Registration will take place on line. Check our spotter training schedule during May for registration information for the advanced class.

<http://www.wrh.noaa.gov/twc/thunder/spottertrainingsch.php>

MONSOON SAFETY

Although the monsoon brings welcome rains and relief from the summer heat, the thunderstorms that come with the monsoon bring their own hazards. This is the most dangerous time of year weather-wise in Arizona, so before and during the season, it is a very good idea to review these safety tips:

Lightning:

If you hear thunder, you are close enough to a storm to be struck by lightning. Go to a safe place immediately! The safest locations are sturdy buildings and hard-topped vehicles.

Get away from open areas, including armadas, porches, trees, convertible cars, swimming pools, and open areas.

Plan outdoor activities to avoid being outside between mid afternoon and mid evening, especially in higher elevations where lightning is more common.

Do not touch any wires or plumbing inside a building

Remember that it does not have to be raining for you to be struck by lightning. Lightning can strike up to 60 miles away from the nearest rainfall!

Bring pets indoors. Lightning and thunder are very scary for pets, and they are likely to panic or even run away to try and escape the storm.

If someone is struck by lightning, call 911 immediately!

Flash Floods:

Flash floods are common in Arizona. There are thousands of low water crossing and dips which flood every summer. Know where they are, and avoid them during heavy rains.

Never ever drive into a flooded roadway. The water depth is very easy to misjudge, and the road itself may be damaged or destroyed underneath. It only takes about 1 to 2 feet of water to float most vehicles, including SUVs.

Never drive around barricades. They are there for a reason – usually because flash flooding is about to take place, is already happening or the road is damaged by flooding and is unsafe.

Never allow children to play near washes or storm drains after any rainfall, no matter how light. These flood easily and rapidly, and storm drains are usually so large that children can be swept away.

Beware of distant thunderstorms, especially if they're over mountains. Flash flooding can occur many miles away from the thunderstorm as the runoff flows into the valleys and deserts.

Do not camp overnight near streams during the monsoon. Although many of our thunderstorms occur during the afternoon and evening, some of our worst flash floods have occurred in the middle of the night.

Hikers and mountain bikers should try to get out early in the day to avoid the dangers of not only flash flooding, but also lightning. Wherever you are hiking during the monsoon, be aware of your escape routes, follow ranger instructions, and be prepared to move to higher ground quickly.

Dust storms:

These are an underrated killer in Arizona! Straight line winds in any thunderstorm can lift huge clouds of dust and reduce visibilities to near zero in seconds, which can quickly result in deadly, multi-vehicle accidents on roadways.

Dust storms are more common in the early part of the monsoon, near agricultural areas, and near the Willcox Playa in Cochise County. Use caution in these areas any time thunderstorms are nearby.

If you encounter a dust storm, pull off the road immediately. Turn off your headlights and put your vehicle in "PARK," and take your foot off the brake. Other motorists may tend to follow taillights in an attempt to get through the dust storm, and may strike your vehicle from behind.

Dust storms usually last a few minutes, and up to an hour at most. Stay where you are until the dust storm passes.

Straight-line winds:

Thunderstorm wind gusts in Arizona almost always exceed 40 mph. The strongest straight line wind gusts can exceed 100 mph, and can produce damage similar to a tornado! Anytime a thunderstorm approaches, no matter how weak it seems, move indoors to avoid flying debris. Winds rushing down from a thunderstorm can develop very quickly.

When a Severe Thunderstorm Warning is in effect, it means damaging wind gusts of 60 mph or higher are likely. Move into a central interior room. Stay away from windows.

Unanchored mobile homes are NOT safe in any severe thunderstorm, and even anchored mobile homes can be heavily damaged in winds over 80 mph. Move to a more sturdy structure.

Stay away from trees. The vast majority of people are killed or injured in severe thunderstorms by falling trees, from flying debris, or from downed power lines.

Never touch a downed power line, even if it appears dead. Assume that it is live. Call for help instead.

Straight line winds can travel dozens of miles away from the thunderstorm that produced them. If the wind suddenly shifts and blows toward you from an approaching storm, while the temperature either becomes much colder or much hotter, the winds are likely to become even stronger. Move indoors!

Before the monsoon, it is a good idea to either secure loose outdoor furniture and garbage cans, or move them indoors. These are frequently blown around in our summer thunderstorms – even the weakest ones.



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DEPARTURES AND PROMOTIONS

General Forecaster Jerald Meadows was promoted to WCM (Warning and Coordination Meteorologist) in Hanford, California back in February of 2015. Congratulations, Jerald!!



Jerald Meadows

Meteorologists Intern, Emily French was recently promoted to the General Forecaster position than Jerald vacated. Emily will be a welcome addition to the General Forecaster ranks. Congratulations!!



Emily French

Meteorologist Intern, Ricardo Humphreys became the OPL (Observation Program Leader) in Tallahassee, Florida. Ricardo's promotion will mean that he is responsible for the collection of all meteorological data, including upper-air soundings and surface observations from Cooperative Observers. among other duties. Great job on the promotion, Ricardo!



Ricardo Humphreys

You may remember in the last edition of the Crier that we had gained a Pathways student employee, Alan Hickford in June of last year. Alan recently became a Meteorologist Intern in Glasgow, MT. Congratulations to Alan on this exciting adventure and start of his career.



Alan Hickford

You also may remember that we gained a Meteorologist intern, Lee Carlaw in 2014. Well, Lee will be leaving us in May since he has been promoted to a General Forecaster at the Ft. Worth, TX office. Lee is excited about the challenges that await him in his new position. Lee will also be happy to be in the plains so he can experience the action of forecasting during severe weather outbreaks the plains are famous for.



Lee Carlaw

DEPARTURES AND PROMOTIONS

John “J.J.” Brost, our SOO (Science and Operations Officer) was promoted in May 2015 to Southern Region Headquarters in Ft. Worth, TX. J.J. now works in the Science and Technology Services Division and is the Branch Chief for the Science and Training Branch.



John Brost



Dan Leins arrived as the new Science and Operations Officer (SOO) at NWS Tucson in February 2016. While new to the position and new to the Tucson area, he isn't new to Arizona as he's making the transition from Lead Forecaster just up the road at NWS Phoenix where he worked since 2009. During that time he learned and experienced the many challenges of dealing with monsoon thunderstorms and their hazards, along with just how hot 119 degrees feels during the summer. Before Phoenix, Dan worked as a General Forecaster at NWS Cleveland, OH and an Intern Meteorologist at NWS Pleasant Hill, MO. Dan is extremely excited to serve in this new role and is looking forward to integrating new datasets and technology into daily operations. Dan was born and raised in eastern Pennsylvania and graduated from Penn State University with a degree in meteorology. When not at work, Dan is an avid fan of college football, photography, the outdoors, cars, racing, and sports

Dan Leins, SOO

WEATHER SPOTTER TRAINING

Date	Time	Location
April 25, 2016	6:30 pm	Sierra Vista Police Dept. Auditorium 911 Coronado Dr. Sierra Vista, AZ
April 27, 2016	6:30 pm	Fire Station #194 21021 E. Homestead Dr. Red Rock, AZ
May 7, 2016	2:00 pm	Oro Valley Public Library 1305 W. Naranja, Oro Valley, AZ
May 10, 2016	6:30 pm	Graham County General Services Bldg. 921 Thatcher Blvd., Safford, AZ
May 17, 2016	6:30 pm	Pascua Yaqui Tribe Educational Center 5100 W. Calle Tetakusim, Room #110 Tucson. AZ
May 19, 2016	6:30 pm	U of A Campus, ENRB 520 N. Park Ave., Rm. #253 Tucson, AZ
May 23, 2016	6:30 pm	Marana Municipal Complex 11555 W. Civic Center Dr. Marana, AZ
May 26, 2016	6:30 pm	Santa Cruz County Court Admin. Bldg. 2150 N. Congress Dr. Nogales, AZ
June 13, 2016	6:00 pm	City of Douglas Visitors Center 345 16th St. Douglas, AZ

National Weather Service Tucson Office Staff

Meteorologist in Charge.....Mike Cantin

Administrative Support Assistant.....Leslie Cole

Warning Coordination Meteorologist.....Kenneth Drozd

Science and Operations Officer.....Daniel Leins (Promoted to SOO this past February. Was previously a Senior Forecaster in Phoenix)

Service Hydrologist.....Erin Boyle

Electronic Systems Analyst.....Chris Carney

IT Specialist.....Evelyn Bersack

Electronic Technicians.....Rick Leupold, Keith Sapp

Senior Forecasters.....Jeff Davis, Brian Francis, John Glueck, Jim Meyer, Greg Mollere

Forecasters.....Carl Cerniglia, Emily French (Promoted to Forecaster from on station this past March), Glenn Lader, Chris Rasmussen, Gary Zell

Meteorologist Interns.....Lee Carlaw (Promoted to a General Forecaster Position in Ft. Worth, Texas, leaves in May), Vacant (2)

Observation Program Leader.....Mic Sherwood